

CESI



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CERTIFICATE



[1] SUPPLEMENTARY EU-TYPE EXAMINATION CERTIFICATE

[2] **Equipment or Protective System intended for use
in potentially explosive atmospheres
Directive 2014/34/EU**

[3] Supplementary EU-Type Examination Certificate number:

CESI 03 ATEX 323X /04

[4] Product: **Gas detectors type TS293, TS493, TS593, SE193, SE138, SE438**

[5] Manufacturer: **TECNOCONTROL S.r.l.**

[6] Address: **Via Miglioli, 47 – 20054 Segrate (MI) – Italy**

[7] This supplementary certificate extends EC-Type Examination Certificate CESI 03 ATEX 323 X to apply to products designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

[8] CESI, notified body n. 0722 in accordance with Article 17 of the Directive 2014/34/EU of the Parliament and Council of 26 February 2014, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential report n. EX-C1010534.

[9] In accordance with Article 41 of Directive 2014/34/EU, EC-Type Examination Certificates referring to 94/9/EC that were in existence prior to the date of application of 2014/34/EU (20 April 2016) may be referenced as if they were issued in accordance with Directive 2014/34/EU. Supplementary certificates to such EC-Type Examination Certificates, and new issues of such certificates, may continue to bear the original certificate number issued prior to 20 April 2016

[10] If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.

[11] This EU-TYPE EXAMINATION CERTIFICATE relates only to the design, examination and tests of the specified equipment or protective system in accordance to the Directive 2014/34/EU. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

[12] The marking of the equipment or protective system shall include the following:

II 2G Ex db IIC T6 Gb

This certificate may only be reproduced in its entirety and without any change, schedule included.

Date 24/06/2021 - Translation issued the 24/06/2021

Prepared
Adrián Lucas Vagni

Verified
Alessandro Fedato

Approved
Roberto Piccin

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Schema di certificazione
CESI-ATEX



PRD N. 018B
Membro degli Accordi di Mutuo
Riconoscimento EA, IAF e ILAC
Signatory of EA, IAF and ILAC
Mutual Recognition Agreements

[13]

Schedule

[14] **SUPPLEMENTARY EU-TYPE EXAMINATION CERTIFICATE n. CESI 03 ATEX 323X /04**

[15] **Description of the variation**

Variation 4.1: Standard update

The **Gas detectors types TS293, TS493, TS593, SE193, SE138, SE438**, previously assessed in compliance to EN 60079-0:2012/A11:2013, EN 60079-1:2014 and IEC 60079-1:2014 were re-assessed on the basis of the Standards bring in the paragraph [18].

Description of equipment

The Gas detectors types TS293, TS493, TS593, SE193, SE138, SE438 are equipment suitable for measuring the concentration of combustible or toxic gases. They are composed by a sensor holder coupled to an enclosure.

The cylindrical sensor holder contains the sensing element (catalytic, pellistor, infrared, electrochemical or semiconductor) and a sintered metal filter for the inlet and outlet of the gases to be analyzed.

The enclosure contains the electronic circuits for signal processing and the connection terminal block. It has laterally two threaded holes which can be used for cable entrances and can contain a sealed glass window for viewing on field.

Model identification

Complete codes and characteristics of detectors are reported in the documents annexed to the certificate.

The identification code is reported on the label fixed on the sensor holder and on the main enclosure.

The identification of the gas is reported on the label fixed on the sensor holder.

Electrical characteristics

Supply rated voltage:	12 ÷ 24 Vdc
Maximum absorbed power:	5 W
Maximum power dissipated in the main enclosure:	3 W
Maximum power dissipated in the sensor holder:	2 W
Signal output:	4 ÷ 20 mA
Ambient temperature	-20 ÷ +55 °C

Installation conditions

The accessories used for the cable entries and to close the unused holes, shall be subject of a separate certification, shall be used according to the Safety Instructions reported in the relevant certificate and shall guarantee the same type/degree of protection assigned to the equipment. Moreover, the accessories shall be suitable to be use in the ambient temperature range assigned to the equipment.

In case of cylindrical threads, the coupling shall be locked against loosening using thread-lock compound.

Warning labels

“WARNING – do not open when energized”

[16] **Report n. EX-C1010534.**

Routine tests

The manufacturer shall carry out the routine tests prescribed at paragraph 16 of the EN 60079-1:2014 standard.

The enclosures with blind cover are exempted from overpressure routine test since they have been submitted, with the static method and favourable result, to an overpressure test at a pressure corresponding to 4 times the reference pressure.

The enclosures fitted with the cover equipped with sealed window shall be submitted to the overpressure test, carried out with the static method according to paragraph 15.2.3.2 of EN 60079-1, with a test value of 10.5 bar. The routine overpressure test may be replaced by a batch testing on the production according to paragraph 16.6 of EN 60079-1:2014.

This certificate may only be reproduced in its entirety and without any change, schedule included.

[13] **Schedule**

[14] **SUPPLEMENTARY EU-TYPE EXAMINATION CERTIFICATE n. CESI 03 ATEX 323X /04**

[17] **Special conditions for safe use (X)**

The installation, the operating, the maintenance and the repair of the equipment shall be in according to the safety instructions supplied by the Manufacturer. The flamepaths characteristics are specified in the manufacturer drawings annexed to the certificate. For information regarding the dimensions of the flameproof joints the manufacturer shall be contacted.

[18] **Essential Health and Safety Requirements**

Compliance with the Essential Health and Safety Requirements is assured by compliance to the following harmonized standards:

EN IEC 60079-0:2018 Explosive atmospheres – Part 0: Equipment - General requirements;
 EN 60079-1:2014 Part 1: Equipment protection by flameproof enclosure “d”

[19] **Descriptive documents (prot. EX-C1010535)**

-*DSP-2293.KM01.05 Technical Note	dated	08.04.2021
-*IST-2293.KM01.02/D Safety Instructions (pg. 6)	dated	08.04.2021
-*n. DIS-2293.KM01.04/B	dated	08.04.2021
-n. DIS-2293.KM01.02/B	dated	16.12.2014
-n. DIS-0058.CU01.01 (pag. 4)	dated	16.12.2014
-n. DIS-0001.VE01.01	dated	16.12.2014
-n. DSP-2293.KM01.03 (pag. 3)	dated	15.06.2010
-n. DIS-0403.RO01.1	dated	15.01.2009
-n. DIS-2293.KM01.05	dated	10.05.2006
-n. DIS-2293.KM01.06	dated	10.05.2006
-n. DIS-0007.TR01.01	dated	10.05.2006
-n. DIS-0001.CU02.01 (pag. 2)	dated	10.05.2006
-n. DIS-0001.CU02.02 (pag. 4)	dated	10.05.2006
-n. DSP-2293.KM01.02 (pag. 2)	dated	23.12.2005
-n. DIS-2293.KM01.07	dated	27.11.2005
-n. DIS-2293.KM01.03	dated	04.11.2003
-n. DIS-2293.KM01.01 (pag. 3)	dated	04.11.2003
-n. DIS-0001.CU01.01 (pag. 4)	dated	04.11.2003
-n. DSP-2293.KM01.01 (pag. 6)	dated	03.11.2003

*Note: an * is included before the title of documents that are new or revised.*

One copy of all documents mentioned above is kept in CESI files.

Certificate history

Issue nr	Issue Date	Summary description of variation
00	09/12/2003	First issue
01	15/05/2006	New enclosure for electronic circuits, terminal block and coupling of the sensor holder. A fourth cable inserted in the sensor holder.
02	31/03/2011	Updating to EN60079-0 (2009) and EN60079-1 (2007) standards. Updating of the electrical characteristics. Constructional modifications. Updating of the address.
03	05/02/2015	Updating to EN60079-0 (2012) standard. New enclosure with cover with sealed window. Updating of the documentation.
04	24/06/2021	Standards update.

This certificate may only be reproduced in its entirety and without any change, schedule included.

EXTENSION n. 03/15

to EC-Type Examination Certificate CESI 03ATEX323X


Equipment: Gas detectors type TS293, TS493, TS593, SE193, SE138 and SE438**Manufacturer:** TECNOCONTROL S.r.l.**Address:** Via Miglioli, 47 – 20090 Segrate (MI) - Italy**Admitted variation**

- Updating to EN60079-0 (2012) standard.
- New enclosure with cover with sealed window;
- Updating of the documentation.

The details of the admitted variations are specified in the descriptive documents annexed to this extension.

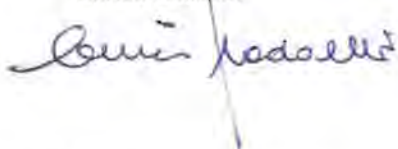
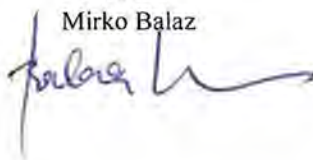
Marking

The equipment shall be marked as follows:

 II 2G Ex d IIC T6 Gb

This extension and annexed descriptive documents must be annexed to the EC-Type Examination Certificate CESI 03ATEX323X.

This document may only be reproduced in its entirety and without any change.

Date 05 February 2015 - Translation issued the 05 February 2015**Prepared**
Enrico Radaelli

Verified
Mirko Balaz

Approved
Roberto Piccin


CESI S.p.A.
Testing & Certification Division
Business Area Certification Page 1/2

EXTENSION n. 03/15

to EC-Type Examination Certificate CESI 03ATEX323X

Description and identification of the equipment

Beginning from this extension the Ex-d enclosure containing electronic circuits can also be provided with cover equipped with sealed window. Within the enclosure a circuit board with display can be added.
Remain unchanged the identification codes of the various types of detector and the maximum power dissipation in the enclosure with electronics and in the sensor head enclosure.

Electrical characteristics

Unchanged characteristics with respect to those indicated in the extension 02/11 of the certificate.

Cable entries

The accessories used for cable entries shall be subject of separate certification in execution Ex d IIC according to EN60079-0 and EN60079-1 standards.

Report n. EX-B5002718.

Routine tests

The manufacturer shall carry out the routine tests prescribed at paragraph 16 of the EN60079-1 standard.
The enclosures with blind cover are exempted from overpressure routine test since they have been submitted, with the static method and favourable result, to an overpressure test at a pressure corresponding to 4 times the reference pressure.
The enclosures fitted with the cover equipped with sealed window shall be submitted to the overpressure test, carried out with the static method according to paragraph 15.1.3.1 of EN 60079-1, with a test value of 10.5 bar. The routine overpressure test may be replaced by a batch testing on the production according to paragraph 16.6 of IEC 60079-1: 2014.

Descriptive documents (prot. B5002728)

- Technical Note DSP-2293.KM01.04	(pg. 3)	dated	16.12.2014
- Safety Instructions IST-2293.KM01.02/C	(pg. 6)	dated	16.12.2014
- n. DIS-0058.CU01.01	(pg. 4)	dated	16.12.2014
- n. DIS-0001.VE01.01		dated	16.12.2014
- n. DIS-2293.KM01.02/B		dated	16.12.2014
- Declaration of Conformity DCE-2293.KM02.01/A (<i>facsimile</i>)		dated	16.12.2014

One copy of all documents is kept in CESI files.

Special conditions for safe use (X)

Unchanged with respect to those indicated in the extension 02/11 of the certificate.

Essential Health and Safety Requirements

The Essential Health and Safety Requirements are assured by compliance to the following standards:

- EN 60079-0: 2012 – Explosive atmospheres - Equipment - General requirements.
- EN 60079-1: 2007 – Explosive atmospheres - Equipment protection by flameproof enclosures “d”.
- IEC 60079-1: 2014 – Explosive atmospheres - Equipment protection by flameproof enclosures “d”.

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EXTENSION n. 02/11

to EC-Type Examination Certificate CESI 03ATEX323



Equipment: Gas detectors type TS293, TS493, TS593, SE193, SE138 and SE438

Manufacturer: **TECNOCONTROL S.r.l.**

Address: Via Miglioli, 97 – 20090 Segrate (MI) - Italy

Admitted variation

- Updating to **EN60079-0 (2009)** and **EN60079-1 (2007)** standards.
- Updating of the electrical characteristics.
- Constructional modifications.
- Updating of the address.

The details of the admitted variations are specified in the descriptive documents annexed to this extension.

Marking

The equipment shall be marked as follows:

 II 2G Ex d IIC T6 Gb

This extension and annexed descriptive documents must be annexed to the EC-Type Examination Certificate CESI 03ATEX323.

This document may only be reproduced in its entirety and without any change.

date 31 March 2011 - translation issued the 31 March 2011

prepared Enrico Radaelli

verified Mirko Balaz

approved Fiorenzo Bregani

CESI S.p.A.
Testing & Certification Division

EXTENSION n. 02/11

to EC-Type Examination Certificate CESI 03ATEX323

Description and identification of the equipment

The gas detectors type TS293, TS493, TS593, SE193, SE138 and SE438 have unchanged characteristics compared to those indicated in the certificate CESI 03ATEX323 and extension 01/06.

Electrical characteristics

Supply rated voltage:	12 ÷ 24 Vdc
Maximum absorbed power:	5 W
Maximum power dissipated in the main enclosure:	3 W
Maximum power dissipated in the sensor enclosure:	2 W
Ambient temperature:	-20 ÷ +55 °C

Cable entries

The accessories used for cable entries shall be subject of separate certification in execution Ex d IIC according to EN60079-0 and EN60079-1 standards.

Report n. EX-B1010660

Routine tests

The manufacturer shall carry out the routine tests prescribed at paragraph 27 of the EN60079-0 standard and at paragraph 16 of the EN60079-1 standard.

The enclosures of equipment in subject the are exempted from overpressure routine test since they have been submitted, with the static method and favourable result, to an overpressure test at a pressure corresponding to 4 times the reference pressure

Descriptive documents (prot. EX-B1010662)

- n. DSP-2293.KM01.03	(pg. 3)	dated 15.06.2010
- n. IST-2293.KM01.02/B	(pg. 6)	dated 30.03.2011
- n. DIS-2293.KM01.02/A		dated 15.06.2010
- n. DIS-2293.KM01.04/A	(pg. 2)	dated 15.06.2010
- n. DIS-0403.RO01.1		dated 15.01.2009
- Declaration of Conformity DCE-2293.KM02.01		dated 31.03.2011

One copy of all documents is kept in CESI files.

Special conditions for safe use (X)

With the updating to the new standard EN60079-0 and EN60079-1, the following special condition for safe use is added; moreover the X suffix is added to the CESI 03ATEX323 certificate number, and beginning from this extension it becomes **CESI 03ATEX323X**.

The flamepaths characteristics are specified in the manufacturer drawings. For information regarding the dimensions of the flameproof joints the manufacturer shall be contacted.

Essential Health and Safety Requirements

The Essential Health and Safety Requirements are assured by compliance to the following standards:

- EN 60079-0: 2009 – Explosive atmospheres - Equipment - General requirements.
- EN 60079-1: 2007 – Explosive atmospheres - Equipment protection by flameproof enclosures “d”.

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EXTENSION n. 01/06

to EC-Type Examination Certificate CESI 03ATEX323

Equipment: Gas detectors type TS293, TS493, TS593, SE193, SE138 and SE438

Manufacturer: **TECNOCONTROL S.r.l.**

Address: Via Miglioli, 97 – 20090 Segrate (MI) - Italy

Admitted variation

Constructional modifications:

- new enclosure for electronic circuits, terminal block and coupling of the sensor holder;
- a fourth cable inserted in the sensor holder.

The details of the constructional modifications are specified in the descriptive documents annexed to this extension.

Report n. EX-A6013029.

Descriptive documents (prot. EX-A6013041)

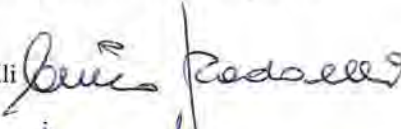
- n. DSP-2293.KM01.02	(pg. 2)	dated	23.12.2005
- n. IST-2293.KM01.02/A	(pg. 6)	dated	10.05.2006
- n. DIS-2293.KM01.05		dated	10.05.2006
- n. DIS-2293.KM01.06		dated	10.05.2006
- n. DIS-2293.KM01.07		dated	27.11.2005
- n. DIS-0001.CU02.01	(pg. 2)	dated	10.05.2006
- n. DIS-0001.CU02.02	(pg. 4)	dated	10.05.2006
- n. DIS-0007.TR01.01		dated	10.05.2006


One copy of all documents is kept in CESI files.

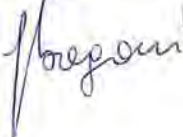
This extension and annexed descriptive documents must be annexed to the EC-Type Examination Certificate CESI 03ATEX323.

This document may only be reproduced in its entirety and without any change.

date 15 May 2006 - translation issued the 15th May 2006

prepared GEN – Enrico Radaelli 

verified GEN – Mirko Balaz 

approved GEN – Fiorenzo Bregani 

CESI
Centro Elettrotecnico Sperimentale Italiano
Giacinto Motta SpA
Business Unit GENERAZIONE
Il Responsabile

page 1/1

Prot. A6013040 P: 1



[1] **EC-TYPE EXAMINATION CERTIFICATE**

[2] **Equipment or Protective System intended for use in potentially explosive atmospheres**
Directive 94/9/EC

[3] EC-Type Examination Certificate number:

CESI 03ATEX 323

[4] Equipment: Gas detectors type TS293, TS493, TS593, SE193, SE138 and SE438

[5] Manufacturer: **TECNOCONTROL S.r.l.**

[6] Address: Via Miglioli, 97 – 20090 Segrate (MI) - Italy

[7] This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

[8] CESI, notified body n. 0722 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential report n. EX-A3/041828.

[9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 50014: 1997 + A1..A2 EN 50018: 2000 + A1

[10] If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.

[11] This EC-TYPE EXAMINATION CERTIFICATE relates only to the design, examination and tests of the specified equipment or protective system in accordance to the Directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

[12] The marking of the equipment or protective system shall include the following:

Ex II 2G EEx d IIC T6

This certificate may only be reproduced in its entirety and without any change, schedule included.

Date 9 December 2003 - Translation issued the 9 December 2003

Prepared
 Enrico Radaelli

Verified
 Mirko Balaz

Approved
 Ulisse Colombo

CESI
CENTRO ELETTROTECNICO SPERIMENTALE ITALIANO
 Business Unit Certificazione
 Il Responsabile

[13]

Schedule

[14] **EC-TYPE EXAMINATION CERTIFICATE n. CESI 03 ATEX 323**

[15] **Description of equipment**

The gas detectors type TS293, TS493, TS593, SE193, SE138 and SE438 are used to detect the concentration of combustible or toxic gases. The detectors are composed by a gas sensor containing the sensitive element in execution Ex-d, coupled with an EEx d IIC enclosure (component subject of separate certification) containing the electronic circuit for the elaboration and memorisation of signals and the terminal block.

Complete codes and characteristics of detectors are reported in the documents annexed to this certificate.

The identification code is reported on the label fixed on the sensor and on the enclosure.

The identification of the gas is reported on the label fixed on the sensor.

The accessories used for cable entries shall be certified according to EN 50014 and EN 50018 Standard.

Electrical characteristics

Rated supply voltage:	12 ÷ 24 Vdc
Maximum power dissipated:	3 W
Ambient temperature:	-20 ÷ +55 °C

[16] **Report n. CESI EX-A3/041828.**

Routine tests

The manufacturer shall carry out the routine tests prescribed at paragraph 24 of EN 50014 standard and at paragraph 16 of EN 50018 standard.

Descriptive documents (prot. EX-A3/041839)

- n. DSP-2293.KM01.01	(pg. 6)	dated 03.11.2003
- n. DIS-2293.KM01.01	(pg. 3)	dated 04.11.2003
- n. DIS-2293.KM01.02		dated 04.11.2003
- n. DIS-2293.KM01.03		dated 04.11.2003
- n. DIS-2293.KM01.04		dated 10.11.2003
- n. DIS-0001.CU01.01	(pg. 4)	dated 04.11.2003
- n. MON-2293.KM01.01	(pg. 2)	dated 01.10.2003
- n. IST-2293.KM01.02	(pg. 2)	dated 04.11.2003
- Conformity Declaration (mod.17-01 Rev.1)		dated 01.11.2003

One copy of all documents is kept in CESI files.

[17] **Special conditions for safe use**

None.

[18] **Essential Health and Safety Requirements**

Assured by compliance to the Standards.

This certificate may only be reproduced in its entirety and without any change, schedule included.